18. (Amended) A multilayered air-fuel ratio sensor having a plurality of stacked layers comprising:

a plurality of substrate layers comprising at least one solid electrolytic substrate layer and at least one insulating substrate layer; and

a boundary layer interposed between said solid electrolytic substrate layer and said insulating substrate layer;

wherein said boundary layer has an average sintered particle size that is larger than that of said solid electrolytic substrate layer and that is larger than that of said insulating substrate layer and wherein the composition of said boundary layer is different from the composition of said solid electrolytic substrate layer.

See the attached Appendix for the changes made to effect the above claims.